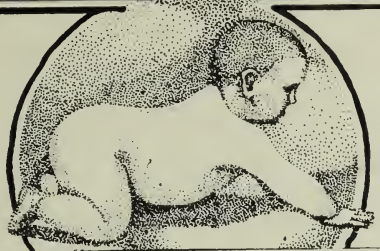
INFANT FEEDING



Save the Babies

THE ILLINOIS STATE BOARD OF HEALTH.
1905.

"Good Christian people, here lies an inestimable loan;- take all heed thereof, in all carefulness employ it;- with high recompense or with heavy penalty will it one day be required back."- CARLYLE.

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REMOTE STORAGE

The Illinois State Board of Health, as created by law, is charged with the general supervision of the interests of the health and life of the people. In view of the great death rate among infants, especially during the summer months, attributable to a large extent to improper feeding and to impure foods, it becomes the duty of the Board to warn the people against those features of infant feeding of the greatest danger to the child and to instruct and advise as to those methods which will reduce the death rate to the minimum.

Second revised edition, July 15, 1905.

INFANT FEEDING

THE FEEDING AND CARE OF INFANTS—THE SELECTION AND HOME MODIFICATION OF COW'S MILK

CIRCULAR ISSUED by the ILLINOIS STATE BOARD OF HEALTH,
1905

"The question whether a child shall be strong and robust or a weakling is often decided by its food during the first three months.

"The problem is not simply to save the child's life during the perilous first year, but to adopt those means which shall tend to the healthy and normal growth of the child."—Dr. L. Emmett Holt.

THE DEATH RATE OF INFANTS IS EXCEEDINGLY HIGH—ONE-FIFTH TO ONE-THIRD OF ALL CHILDREN BORN DIE BEFORE REACHING THE SECOND YEAR OF LIFE.

The statistics of all localities, both city and country, show that the highest mortality of life is during the first year. In the State of Illinois, about one-fifth of all who are born, die during the first year. In large cities, as in Chicago and New York, this death roll has been increased at times until it reaches the figure of one-third.

One-fifth of all deaths among infants occur during the month of July. The vast majority in the summer months.

Hot weather does not kill babies in itself. Deaths are chiefly due to the effects of the hot weather upon the food.

An exceedingly large number of infants, even those born under the best conditions and afforded the natural food of the mother's milk, fail to weather the storms of the first and second summers. Among the poor and especially among those infants deprived of mother's milk, the death rate assumes shocking proportions.

THE VAST MAJORITY OF INFANTS DYING DURING THE FIRST YEAR, DIE FROM IMPROPER FOOD OR THEIR INABILITY TO DIGEST AND ASSIMILATE IT.

While the mortality among all young infants is high, it must be appreciated that digestive disorders are the chief cause of death. It must be further remembered that the mortality among those artificially fed is vastly greater than among those nursed by the mother. The infant deprived of the mother's milk has its chances of life and health materially lessened. The adoption of any other food when the mother is capable of nursing the infant, incurs dangers to the child which makes such action almost criminal.

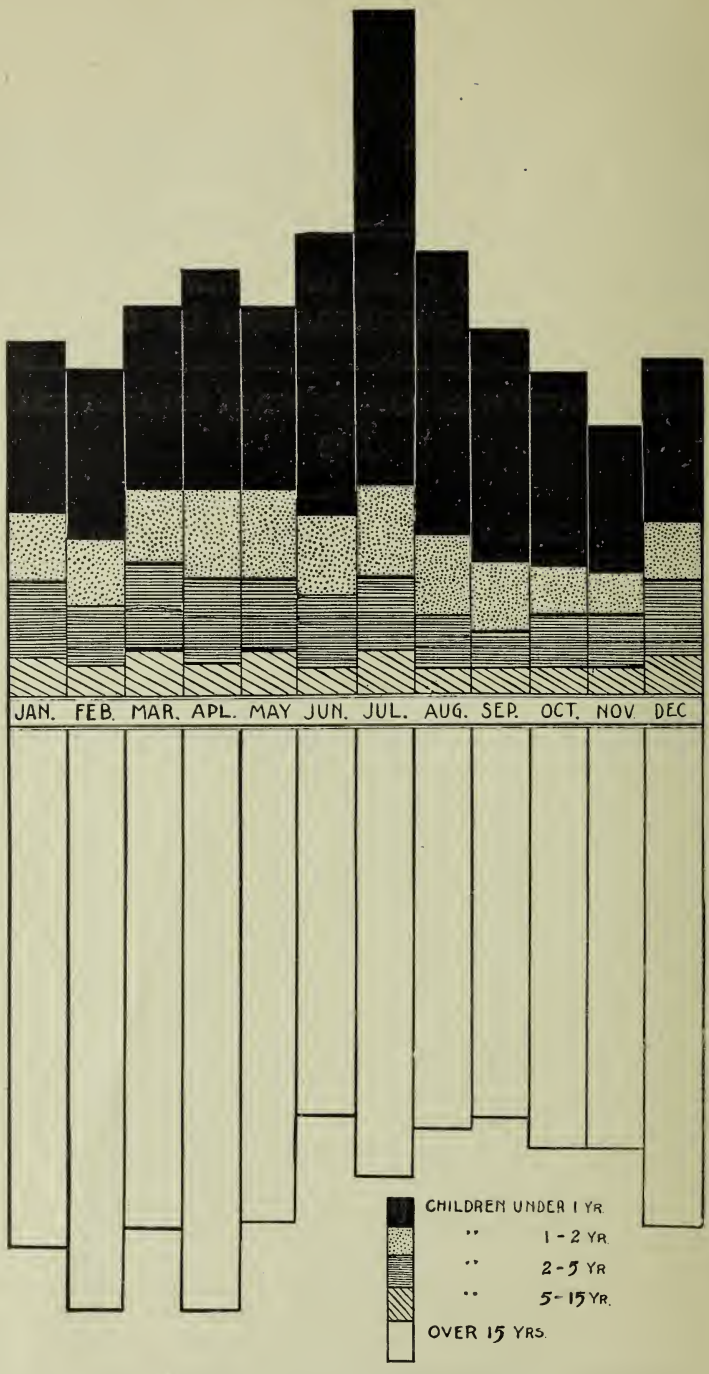


CHART SHOWING MORTALITY IN LARGE CITIES BY MONTHS AND BY AGES.

(It will be seen that during the month of July there were more deaths among those under 1 year of age than among all persons over 15 years of age.)

BREAST FEEDING.

MOTHER'S MILK IS THE NATURAL AND ONLY PERFECT FOOD FOR THE INFANT. ANY SUBSTITUTION FOR MOTHER'S MILK MUST BE LOOKED UPON AS A DANGEROUS UNDERTAKING JUSTIFIED ONLY BY NECESSITY.

There is no perfect substitute for mother's milk. This applies to the milk of the wet-nurse, to the milk of the cow or the goat, to condensed milk and to the artificial manufactured foods so widely advertised.

When it becomes necessary, as it sometimes is necessary, to substitute other food for the mother's milk, the substitute should be a food which is as much like normal woman's milk as possible.

A healthy mother whose baby is able to nurse properly need have little concern as to substitutes for several months.

If the mother is able to nurse and there is no valid reason why she should not continue nursing, the infant should have nothing but its mother's milk for the first six months of life at least.

For many reasons too lengthy to be discussed here, the physician may decide that the interests of the infant or of the mother may require that the infant be weaned. The weaning of an infant is accompanied by so much danger to the child, especially in hot weather, however, that it is the part of wisdom to seek the advice of a physician before undertaking it.

Except under special conditions, weaning should not be attempted until every effort has been made to improve the milk of the mother. If the milk is insufficient, a physician should be consulted before artificial foods are adopted.

When the breast milk, while plentiful and apparently good in quality, fails to nourish the infant, a change of the mother's diet and habits will often give excellent results. If the infant does not increase in weight, the free use of fats by the mother will soon show an improvement.

The richness of the milk may be often increased by plenty of meat, eggs, animal broths and other animal foods. The richness may be decreased by omitting or decreasing these foods and by plenty of fruits and cereals.

Over-eating and too little exercise will often increase those elements in the milk which render it most indigestible. Malt extracts and alcohol in the form of beers and ales increase the richness of the milk, but the regular use of these or other alcoholic drinks frequently does more harm than good. Alcohol has been known to appear in the milk and stale beer drunk by the mother has occasioned serious illness of the child.

The nursing mother should drink plenty of pure water. She should drink tea sparingly and should not drink strong tea at all. There is no better food for the nursing woman than good milk. She should use it freely.

Foods which may be eaten by some nursing mothers without affecting their babies, cannot be eaten by others. Tomatoes, strawberries and lettuce cannot be eaten by some. For most mothers these fresh foods are of great value and should be eaten freely.

RULES OF DIET MUST NOT BE TOO RIGIDLY MADE. THERE IS NO METHOD OF FEEDING SO IMPORTANT THAT IT SHOULD BE CONTINUED IF IT DISAGREES WITH THE MOTHER. The mother must be in good health to produce satisfactory milk. Any method adopted to increase the

quantity or quality of milk must primarily prove beneficial or, at least, not injurious to the mother.

DRUGS MUST NOT BE GIVEN TO THE NURSING MOTHER EXCEPT ON THE DIRECTION OF A COMPETENT PHYSICIAN. Opium, senna, rhubarb and other drugs taken by the mother may appear in the milk and may poison the child.

Great fatigue, exhaustion, excitement, sudden fright, grief, anger or passion of the mother have occasioned illness of infants. Under such conditions it is often better to draw the milk and give the infant some other food and to avoid nursing until the mother regains self-control.

The mother herself should appreciate that the comfort and health of herself and her infant will depend greatly upon the intelligence displayed in nursing.

The breasts should be kept scrupulously clean. The breasts and nipples should be washed with pure water after each nursing.

During the first day after birth, the child should be put to the breast once in six hours; on the second day, once in four hours. It can be placed to the breast more frequently if it refuses to nurse or fails to obtain nourishment.

A good flow of milk is frequently not established until the fourth or fifth day and, at times, not until the sixth. During the meantime, however, even though the flow be very scanty, the infant should be put regularly to the breast.

There is a tendency, especially on the part of young mothers, to give food to the infant during the time that the flow of milk is being established. This often leads to most unfortunate results and frequently to serious illness. Nothing should be given aside from the mother's milk except a little pure water or a clean linen rag moistened with pure water to suck.

After the third day, during the first month or five weeks, ten nursings in twenty-four hours will be sufficient for the normal infant and no more should be allowed. A healthy child will usually, during the first month, take one long nap of from four to six hours each day. It should not be wakened for feeding during this nap, but aside from this should be fed regularly every two hours. Do not feed more often.

From the sixth week to the third month eight nursings, two and a half hours apart, will be sufficient, with one nursing at night. From the third to the fifth month, the baby should be nursed every three hours during the day time.

Nurse at regular intervals. Don't nurse too often. Don't put the baby to the breast every time it cries. Babies more frequently suffer from over-feeding than under-feeding. If you nurse too often, your milk will become unfit for your baby.

It is easy to get a baby into good habits. It is hard to get the baby out of bad habits. By adopting regular habits of nursing, the mother is given more freedom and more rest and is in better condition to take good care of her child.

The nursing should not last over 20 minutes. Never let the baby go to sleep with the nipple in its mouth.

It is much better to use one breast for each feeding, alternating regularly, than to let the baby nurse at both breasts at each feeding. It is a good plan to keep a memorandum slip of paper arranged as follows so that the breasts are used equally:

Right, 5 a. m.; left, 7; right, 9; left, 11; right, 1 p. m.; left, 3; right, 5; left, 7; right, 9.

Crying during the first few days of life is perfectly natural and even beneficial to the child. It does not indicate illness or hunger and medicines or foods should not be given.

Never give a baby drugs or medicines except under the direction of a physician. What benefited your neighbor's baby may kill yours.

If your baby shows signs of colic don't dose it with paregoric, whiskey, brandy or soothing syrup. Colic is often a symptom of some condition which needs attention. Drugging the baby into insensibility will not remove the cause. Colic is often due to constipation. It may come from cold hands and feet. Keep the baby's hands and feet warm. Give a little castor oil for the constipation. Keep a flannel belly band on the baby summer and winter. Don't drug the baby. When the baby is sick enough to need soothing syrup, it is sick enough to need a doctor. Soothing syrups have killed many babies.



WEANING THE BABY.

Few mothers are able to nurse their infants after the ninth month without too much of a drain upon themselves and injury to the child. Many women should wean their infants at six months. There is grave danger to the child in nursing too long.

Weaning should be done gradually. Sudden weaning is apt to cause serious illness of the infant. It is usually best not to wean the baby in hot weather.

During the fifth or sixth month the infant might be taught to take food and water from the bottle. This will help materially in weaning.

In changing from breast milk to modified milk, the milk used first should be very much diluted unless the baby has been given a bottle in addition to the mother's milk. In weaning a six months old baby, give the milk usually given to an infant one month old (See page 13). If the baby is ten months old, give the milk usually given to a three months old baby. (See page 13).

It is well to begin weaning early, feeding the infant for some time with both breast milk and artificial food.

WHEN TO ADOPT ARTIFICIAL FEEDING.

Artificial feeding should be adopted when the mother is unable to nurse; when the infant is unable to nurse, when the milk continues to disagree with the infant, when the milk supply remains insufficient, when the condition of the infant or mother calls for weaning, when the milk does not contain sufficient nourishment for the baby.

When the milk is good in quality but insufficient in quantity it is better to "help the mother out" by giving the baby some artificial food in addition to the breast milk. This should also be done at the beginning of weaning.

Good artificial feeding is better than bad breast feeding.

Breast feeding should invariably be discontinued under the following conditions:

1. When the mother is a consumptive. Not only is there danger to the child in nursing at the breast of the consumptive mother, but the drain upon the mother herself hastens the progress and fatal termination of the disease.
2. When serious complications follow child-birth, such as severe hemorrhage, child-bed fever, blood poisoning or kidney disease.
3. When the mother is epileptic or suffers from St. Vitus' dance or is so intensely nervous as to require medical attention.
4. When the mother suffers from any chronic disease or is very delicate. Nursing under such conditions is too severe a drain upon the mother and usually unsatisfactory for the child.
5. When the mother has become again pregnant.

Extremely sensitive breasts, even though there may be intense pain in nursing, is not a reason for discontinuing nursing. Persistence for a few days usually overcomes this sensitiveness.

Menstruation of the mother does not affect the milk as much as usually believed. It may at times, however, cause slight indigestion but is not a sound reason for discontinuing nursing.

The nursing mother can become pregnant, the oft expressed opinions to the contrary notwithstanding. It is necessary to emphasize this fact, for it is well known that some mothers nurse their children for several months after they should be weaned in the belief that they cannot become pregnant. Could these misguided mothers hear the experiences of those who have used this method of prevention (?), they would soon abandon their folly and cease to give to their helpless infants a milk deficient in quality, the administration of which may work irreparable injury.

ARTIFICIAL FEEDING.

When it has been shown that artificial feeding must be adopted we must select that food which is best for the child and which gives the best promise of health. In this selection we must decide between the milk of another nursing woman—the wet-nurse—the milk of the cow and the manufactured infant foods.

Whatever food may be selected it must be remembered that even a little breast milk each day will improve the infant's chances of life and health. **The baby who can have breast milk in addition to the artificial food will do better than if dependent upon artificial food alone.** If possible put the baby to the breast if no oftener than thrice a day.

WET NURSES. The wet nurse is by no means as popular as in years past. While the milk of another woman is the ideal substitute for the infant deprived of its mother's milk, there are many objections to the wet-nurse. The expense of keeping a wet nurse is considerable. The pay is high and the cost of keeping another adult in the family is not trifling. The wet-nurse coming from humble walks in life may be a good nurse under her normal conditions. When she enters a home where she lives on richer food and lives a life of laziness, her milk often becomes unsuited to the child. To be satisfactory a wet-nurse should live as nearly as possible in the manner in which she has been accustomed.

In hiring a wet-nurse remember that we are entrusting the infant to a source of food which may be lost at any time. The baby is dependent upon the whims and caprices of the wet-nurse, who may leave at any moment without warning.

Unless the nurse is perfectly healthy the child may acquire disease from her. A wet-nurse should never be hired unless she has been thoroughly examined by the family physician.

Civilized people cannot ignore the fact that many babies whose mothers secure employment as wet nurses, die from neglect. A wet nurse should never be employed if her own baby will suffer through her employment. The nervous influences connected with the parting from her own child, often affect the milk of the wet nurse.

COW'S MILK.

Cow's milk and mother's milk differ in many essential particulars. One is suited for the stomach of the calf, the other for the stomach of the baby. As has been aptly stated, the milk of every animal has certain peculiarities which fit it for the stomach of that particular animal only.

Certain changes take place in the milk of the cow, immediately after it is drawn. These continue, so when the milk is twenty-four hours old, the difference between it and the milk of the mother have materially increased.

Cow's milk undiluted and unaltered is entirely unfit for the infant. If properly diluted and mixed, however, cow's milk is the best substitute for mother's milk.

Cow's milk can be diluted best by either water or decoctions of cereals, barley or oatmeal, or by beef or mutton broth—the latter towards the end of the first year. Oatmeal and beef broth have a tendency to loosen the bowels.

For infant feeding, milk must be fresh and must come from dairies that are known to be absolutely clean. There should not be over twenty-four hours between the cow and the baby. Milk over twenty-four hours old cannot safely be used for infants.

The fresher the milk, the more easily is it digested by the infant.

Milk bottled at the dairy and delivered in glass is purer and better than that delivered in the milkman's can. Milk bought from the grocer and dipped from cans is nearly always dirty and unfit for use.

The milk should come from cows that are healthy and from those that feed on good grains. Milk from herds fed on wet malt, brewery grain or slops, should never be used.

Common breeds of cows give better milk than Jerseys, Alderneys and other finer breeds. The finer breeds are more subject to sickness and disease.

Milk from a herd is better than milk from one cow. Diseases of cows are frequent. If a cow is diseased, the baby taking the milk of that cow is apt to acquire disease. If that cow be of a herd from which the baby receives its milk, the danger is reduced to the minimum. Then the milk from a herd differs less from day to day.

Cleanliness is more important than the richness of the milk. It is better for an infant to have clean milk in filthy surroundings than dirty milk in ideal surroundings. The child may starve on poor milk, but it is poisoned by dirty milk. One reason that breast milk agrees with infants is because it is perfectly clean when it enters the baby's mouth.

Milk will absorb disease and poisonous gases. One bottle of tainted milk may be fatal to the infant.

The essential conditions to be fulfilled in cow's milk which is to be used as a food for infants are, as follows: (1) Freshness: the milk should not be over twenty-four hours old. (2) It should contain no preservatives. (3) It should be from healthy animals, free from tuberculosis and other diseases. (4) It should be clean. (5) It should not be skimmed or otherwise falsified. (6) It should contain no disease germs. (7) It should be from a mixed herd so that the milk will be uniform from day to day. (8) It should be from common or "grade" cows because they are more hardy, less subject to disease, and less susceptible to influences which affect the milk.

Don't use preservatives in milk. Don't buy milk from a dealer who uses preservatives. You can never tell just how much he has used, or how much has been used before the milk reached him, by the dairyman, the wholesaler or commission man. A preservative which may be harmless to an infant in minute quantities, just sufficient to preserve the milk, may be a deadly poison if used in large quantities. Boris acid, borax, formaldehyde and bicarbonate of soda are commonly used to prevent milk from "turning." Health officials or your physician will be able to detect preservatives in milk. If in doubt refer samples to them.*

Don't buy cheap milk. Poor milk is dear at any price. Good milk is not dear at the prevailing prices. A good, clean, fresh milk at six or seven cents a quart is very reasonable—a first class milk at eight or nine cents a quart is not high when one considers the price of other commodities. If you must economize on your baby do so on its clothing, not on its food.

It is amusing and yet pathetic to see a parent haggle over the price of the infant's food, endeavoring to save a fraction of a cent on a glassful, and then willingly spend the price of a quart or two on soda water or beer.

"SCALDING," STERILIZING AND PASTEURIZING MILK.

Good, fresh milk which has been kept clean and cold, needs no preservative. It is better to neither "scald," sterilize nor Pasteurize such milk.

In many instances, however, the milk which the mother must give her infant is neither good nor fresh. It has not been kept clean or cold. It sours quickly. It is imperative that steps be taken to render such milk as harmless as possible to the infant and to keep it from spoiling. This is best done by heating the milk, by either "scalding," sterilizing or Pasteurization.

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*Information as to reliable tests for preservatives in milk will be forwarded by the State Board of Health on the application of any physician or health officer.

Sterilization is the heating of milk at a temperature of 212° F. for some time. This renders the milk harder to digest and decreases its food value. It causes several changes in the properties of the milk.

Between dirty milk and cooked milk, however, we must choose of two evils. Sterilization or cooking is the lesser of the two.

If it is necessary to sterilize at all, the sooner we sterilize the better. It is more effective if done at the dairy. In the home, it should be sterilized or scalded as soon as it is received.

Sterilization will not purify dirty milk. Dirty sterilized milk may be poisonous to the infant.

Pasteurization is a complicated process. Bad results may follow if not done properly. Sterilization is safer and better, especially where ice is not to be had. Among the poor in large cities, sterilization is the only proper method of preserving milk.

The use of any cooked milk for a long period of time—whether scalded, sterilized or Pasteurized—is attended with grave risk. The infant dependent upon cooked milk will not thrive so well as the one fed on clean, fresh milk, and must consequently be watched with great care.

The simplest way to scald or sterilize milk is to put it in a double boiler or in a vessel in a pan of cold water. Put it on the stove. When the water has come to a boil, remove the boiler from the stove. Permit the milk to remain in the water for about 20 minutes and cool as quickly as possible. Put it in a fruit jar which has been previously scalded. Keep the cap screwed on the bottle constantly. The cap, as well as the bottle, must be scalded.

In scalding milk, **do not let the milk boil.**

Everything which comes in contact with the scalded milk must be scrupulously clean. It is as easy to get sterilized milk dirty as fresh milk.

In many cities "certified milk" may be secured at a little higher price than ordinary milk. The additional cost is well invested. Such milk is usually pure and clean, from herds of healthy cattle and is made to contain the same amount of cream summer and winter.

There is no milk so pure and so good that it is suited to the digestion of the baby without dilution and modification.

CONDENSED MILK.

Condensed milk is the artificial food most commonly used, especially among the poor. Babies fed on condensed milk alone are often fat, but seldom strong. **A fat baby is not always a healthy baby.**

Condensed milk is easily digested even by very young and frail infants. Its effects are not satisfactory. It may serve a good purpose in time of emergency when pure, reliable milk cannot be secured. Between dirty, impure or stale cow's milk and condensed milk, choose the condensed milk, but it must not be used for any length of time. When traveling or when the milk supply fails, condensed milk often tides the infant over a period of danger.

Condensed milk contains too much sugar and not enough fat. Practically every baby raised on it alone shows signs of rickets or other disease. It should never be given without the addition of fats; fresh cream if possible. In the absence of fresh cream, cod liver oil may be given, 5 to 20 drops at each feeding.

If you use condensed milk, get the best that can be had. Borden's Eagle Brand and the Helvetia Brand are known to be well prepared and reliable.

MANUFACTURED FOODS.

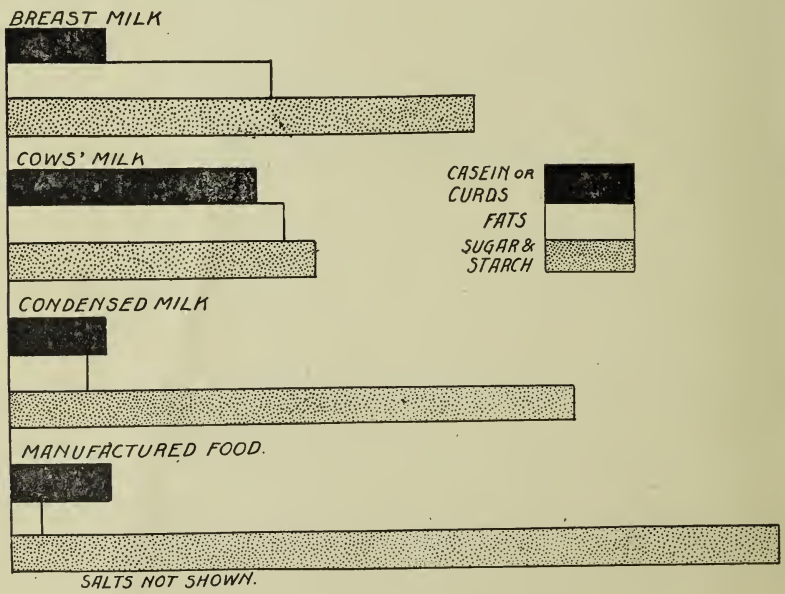
There are many infant foods on the market. Their use is decried by some eminent authorities on infant feeding. It is claimed that they can do much harm; that certain diseases have followed their prolonged use. Other eminent authorities assert that these foods may be of considerable value. Still other authorities, equally as eminent, advocate the use of some of these foods, and hold that they may be advantageously used as an addition to mother's milk, especially after the fifth and sixth month.

The most commonly used foods are classified as Milk Foods, Malted Foods and Farinaceous Foods. Horlick's and Mellin's are examples of the second class, and Eskay's of the third.

None of these foods contains sufficient fat. Some have an excess of starch, making them unsuitable for the infant until the latter part of the first year. Some contain too much sugar. None of these foods should be used alone.

The manufacturers of Horlick's Malted Milk assert that it does not require the addition of cow's milk; that it is composed of pure, rich cow's milk reduced to dryness and combined with an extract of malted wheat and barley. The food may be used temporarily, alone, but it is believed for continued use, milk should be added.

Mellin's Food is said to be a dry extract from wheat and malt, and free from cane sugar and starch.



NOTE—The manufactured food is shown as mixed with water alone. Mixed with milk, as usually directed, the comparison would show it much more like breast milk.

Eskay's Food, according to the manufacturers, contains the more easily digested cereals combined with egg albumen.

An analysis of Horlick's Malted Milk shows that it contains less fat than mother's milk and more sugar, and that it is free from starch. Mellin's Food has practically no fats or starch and much more sugar than mother's milk. An analysis of Eskay's Food is not obtainable at the present time.

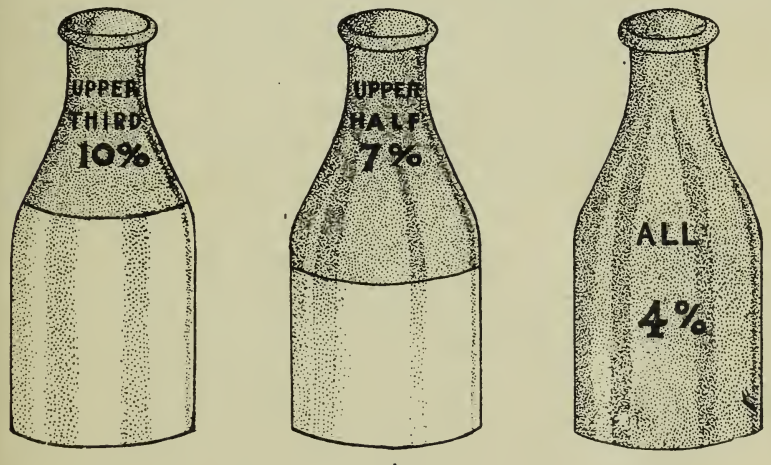
The chart at the foot of page 10, shows a comparison of Breast Milk, Cow's Milk, Condensed Milk and a widely advertised Manufactured Food.

Notwithstanding the conflicting testimony on the value of these foods, and the disadvantages of some for infant feeding, as indicated above, it is well known that their use is recommended by leading physicians and that they are used to seeming advantage by many infants.

If used, they should not, as stated above, be used alone. They should be mixed with diluted cow's milk, in which it is believed that they break up the tough curds and render the milk more digestible. The same advantages however, can be attributed to barley water and oatmeal water.

MILK MODIFICATION.

As stated, cow's milk, properly diluted and modified, is the best substitute for mother's milk. Undiluted and unmodified it is unfit for infant food. Cow's milk must be diluted on account of its richness in curds. When diluted, however, it contains too little fats and sugar. Hence, after dilution, we must add cream and sugar to the milk. This process imitates the milk of the mother as nearly as can be done. It is commonly known as "milk modification." Milk so



CUT I.

treated is called "modified milk." "Modified milk" is now accepted by all authorities as the best food for the infant deprived of breast milk.

Good cows' milk contains about 4 per cent of butter fat. A bottle of good milk may be called "4 per cent milk." After standing until the cream rises to the top, the upper third of a bottle of good milk contains 10 per cent of butter fat. This upper third is called "10 per cent milk" of cream. The upper half of a bottle of good milk contains 7 per cent of butter fat and this is known as

"7 per cent milk." When buying milk for infant feeding insist upon having "whole milk," never "skim milk." Whole milk should be "4 per cent milk."

The following materials are required for milk modification.

WATER.—The water with which the food will be diluted should be absolutely pure. The benefits of clean milk are entirely lost if we dilute it with dirty water.

LIME WATER.—Lime water is used to overcome the acidity of cow's milk, and to lessen the consistency of the curd. There are some infants with whom it does not agree. Used too freely it may cause constipation. It may be obtained cheaply from the druggist. Vichy water is a good substitute for lime water and should be used if the latter disagrees.

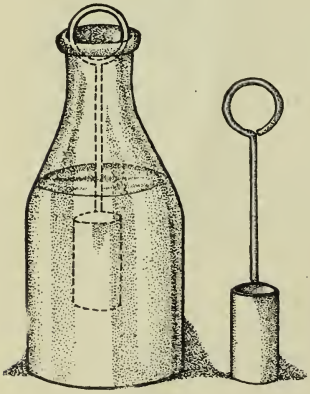
SUGAR.—Sugar is not added to cows' milk to sweeten it, but to make it conform as nearly as possible to mothers' milk. Milk sugar is best. Get it from a reliable druggist. If you can't get pure milk sugar, use cane sugar. If cane sugar is used add only half the quantity that you would of milk sugar.

BARLEY WATER.*—Barley water is often used in diluting milk for infant feeding and tends to make the curds of milk more easily digestible. Barley water is made as follows: To 2 tablespoonsful of barley meal add enough of a quart of cold water to make a thin paste and then add the remainder of the quart of water; stir and boil 15 to 20 minutes. Barley flour is much better than pearl barley and requires much less cooking. Pearl barley should be boiled for 2 to 3 hours. Barley water should not be kept from day to day, but should be made fresh every morning.

OATMEAL WATER.*—Oatmeal water is used in the same way as barley water, especially when a laxative effect is desired. To make it, stir 2 tablespoonsful of oatmeal in a quart of boiling water, cover and let simmer for 2 hours. Replace the water as it evaporates so that there will be a quart when done. Strain. Do not use a second day. Make fresh every day.

MILK MIXTURES.

To take off the upper third of a bottle of milk (10 per cent milk) or the upper half (7 per cent milk) may be easily taken off with a spoon or with the little dipper shown in Cut II. This dipper holds just one ounce and is convenient for dipping and measuring. With it the upper milk may be removed without disturbing the lower milk. It is known as the "Chapin dipper" and may be had at the druggist's at a small cost. In using a spoon it will be remembered that eight teaspoons are equivalent to one ounce, or four dessertspoons or two tablespoons.



CUT II.

During the first four weeks the infant is to be fed, as before stated, every 2 hours and takes about 2 ounces at each feeding. The food should be mixed in the morning for the entire day. It should then be placed in the nursing bottles, enough for a feeding in each bottle, or should be put in a covered glass jar and placed on ice. For the first weeks in life the baby will use 20 ounces a day. The following milk mixtures are based on that amount. It is easy to estimate the

*See page 15.

quantities for larger amounts. For a 25-ounce mixture, add one-fourth more of each ingredient. For a 30-ounce mixture add one-half more of each ingredient.

MILK MIXTURES.—(From Birth to Three or Four Months of Age.)

1. Milk sugar, 1 oz. (3 level tablespoonsful.)
   Lime water, 1 oz.
   Enough hot water to make 20 ounces. After the milk sugar is dissolved add two ounces of upper third milk (10% fat.)

This is a suitable modified milk for the infant immediately after birth.

2. Milk sugar, lime water and water same as for No. 1, with the addition of 3 ounces of upper third milk.

3. Milk sugar, lime water and water as in No. 1, with the addition of 4 ounces of upper third milk.

4. Milk sugar, lime water and water as in No. 1, with the addition of 5 ounces of upper third milk.

5. Milk sugar, lime water and water as in No. 1, with the addition of 6 ounces of upper third milk.

6. Milk sugar, lime water and water as in No. 1, with the addition of 7 ounces of upper third milk.

Ten per cent milk may be secured as shown in cut 1a from the upper third of the bottle of good 4% milk, or may be secured by mixing 2 parts of whole good milk with 1 part of cream.

If the baby is artificially fed from birth, begin with Mixture No. 1. Substitute the succeeding mixtures gradually until the third or fourth month. After the fourth month the above mixtures are not strong enough.

In weaning an older infant, use the mixture suited to the age of the child from the above or from following mixtures.

MILK MIXTURES.—(From the Third or Fourth Months to the End of the Ninth or Tenth Month.)

For these formulas is used the upper half milk as shown in Cut 1b, or milk containing 7% fat. This may be secured not only from the upper half of the bottle of good milk, but also by mixing 3 parts of good milk with 1 part of cream.

1. Milk sugar, 1 oz. (3 level tablespoonsful.)
   Lime water, 1 oz.
   Enough hot water to make 20 ounces. After the milk sugar is dissolved add 3 ounces of upper half milk.

2. Milk sugar, lime water and water as in No. 1, with the addition of 4 ounces of upper half milk.

3. Milk sugar, lime water and water as in No. 1, with the addition of 5 ounces of upper half milk.

4. Milk sugar, lime water and water as in No. 1, with the addition of 6 ounces of upper half milk.

5. Milk sugar, lime water and water as in No. 1, with the addition of 7 ounces of upper half milk.

6. Milk sugar, lime water and water as in No. 1, with the addition of 8 ounces of upper half milk.

7. Milk sugar, lime water and water as in No. 1, with the addition of 9 ounces of upper half milk.

8. Milk sugar, lime water and water as in No. 1, with the addition of 10 ounces of upper half milk.

9. Milk sugar, ¾ oz.
   Lime water, 1 oz.
   Enough water to make 20 ounces. To this add 12 ounces of upper half milk.

Of the above formulas, it is seldom necessary for the healthy infant to use a mixture of less strength than No. 5. Nos. 1, 2, 3 and 4 are of value, however, during temporary disturbances of digestion when it is desired to relieve the digestive organs of as much work as possible.

The infant which can take Mixture No. 9 of the above formulas without difficulty is usually able to begin on No. 5, of the following formulas, in which whole milk (4%) is used.

MILK MIXTURES.—(For the latter part of the First Year.)

1. Milk sugar, 1 oz.
   Lime water, 1 oz.
   Enough hot water to make 20 ounces. After the milk sugar is dissolved add 5 ounces of whole milk.
2. Milk sugar, lime water and water as in No. 1, with the addition of 6 ounces of whole milk.
3. Milk sugar, lime water and water as in No. 1, with the addition of 8 ounces of whole milk.
4. Milk sugar, lime water and water as in No. 1, with the addition of 10 ounces of whole milk.
5. Milk sugar, ½ oz.
   Lime water, 1 oz.
   Enough water to make 20 ounces. To this add 12 ounces of whole milk.
6. Milk sugar, lime water and water as in No. 5, with the addition of 14 ounces of whole milk.
7. Milk sugar, lime water and water as in No. 5, with the addition of 16 ounces of whole milk.

For mothers who do not get milk in bottles and who have difficulty in using the above formulas, the following excellent mixtures are given. They are simply made and prove satisfactory for most infants.

For a new-born baby, or one a month or two old, take 1 ounce of fresh milk; 3 ounces of water; 1 ounce of fresh cream, and 2 level teaspoonsful of milk sugar. This makes about 5 ounces. For 20 ounces use four times as much of each ingredient. This closely resembles mother's milk.

For older babies, take 2 ounces of fresh milk; 2 ounces of water; 1 ounce of fresh cream; 2 level teaspoonsful of milk sugar and a teaspoonful of lime water. Larger quantities may be made by increasing the amounts of each ingredients in proper proportion. More milk and less water will be used as the infant increases in age.

If cream disagrees with the infant its use should be stopped temporarily. The following is a good substitute for mothers' milk suitable for an infant of three months or less: Pure milk, 1 cupful; water, 2 cupsful; sugar of milk, 1 heaping tablespoonful, and lime water, 1 tablespoonful.

Milk sugar should always be dissolved in hot water. It sours quickly when dissolved, so not more than one day's supply should be prepared at a time.

BARLEY WATER AND OAT-MEAL WATER. As a rule barley water and oat-meal water are not needed until the sixth or seventh month. Some young infants, however, unable to digest the curds of milk, are able to do so when barley water is added. For very young infants cereal waters or gruels should not be used except on the direction of the physician.

After the sixth or seventh month, barley water may be added to the milk to advantage. The barley water may take the place of the water used for dilution. As the barley water is added, the sugar should be reduced. When the baby is constipated, oat-meal water should be used in place of barley water.

Barley water and oatmeal water are recommended by many authorities* as a proper substance for children's food. One author of international reputation, in referring to oatmeal, says, "if I were restricted to the use of any one article in addition to milk for bringing up a child, it should be this and barley meal." The same author prefers barley meal for steady diet for the reason that oatmeal tends to relax the bowels.

The infant should be fed from a nursing bottle, not from a spoon or cup. The act of sucking is necessary to insure a proper digestion of the food.

MATERIALS REQUIRED FOR MILK MIXING.

For properly preparing milk for the baby, you should have:

One 8-ounce glass graduate;

Use this.



CUT III.

One glass funnel;

One cream dipper (see Cut II);

A bottle of lime water;

A supply of absolutely pure water;

Ten nursing bottles which can be easily cleaned (see Cut III);

Three black rubber nipples;

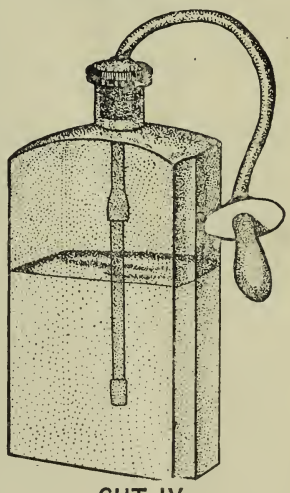
Three bottle brushes for washing out the bottles;

Pitchers, cups, spoons and measures used in mixing the baby's food should not be used for any other purpose.

The nursing bottles should be free from angles so that they may be easily cleaned. The best bottles are marked with the ounces so that the exact amount given may be easily decided. Square or paneled bottles should never be used. Sour milk and dirt cannot be removed from the corners. This filth remaining will spoil the milk later put in the bottle. Spoiled milk is a poison to the child. (See Cut IV.)

Ten bottles are recommended as it is found much more convenient to mix the food for the entire day in the morning and to put it in bottles, enough for each feeding, and then to place the bottles on ice. The food may be heated by placing the bottles in hot water. Fewer bottles may be used, but no mother should attempt to get along with less than two.

Do not use this.



CUT IV.

Nipples of black rubber are better than those of

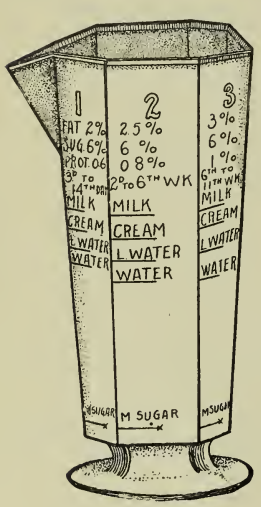
*See page 19.

white or red. Nipples should be made so that they can be turned and washed inside and out.

Nursing tubes cannot be too strongly condemned. They cannot be cleaned and milk taken through them, especially in hot weather, becomes filthy and is absolutely poisonous to the infant. (See Cut IV.)

CARE OF BOTTLES AND NIPPLES.—After using, bottles should be thoroughly rinsed, washed in soap-suds and again rinsed. When not in use they should be filled with a solution of boric acid, a teaspoonful to the pint of water. Before using again they should be placed in boiling water for 10 minutes. Milk should not be permitted to remain in the bottles after the baby is through feeding.

It is better to have plenty of bottles so that the same bottle will not have to be used too frequently.



CUT V.

Nipples should be washed thoroughly inside and out after each nursing. They should be kept in boric acid solution, a teaspoonful to a pint of water, when not in use.

"Sore mouth," "colic" and summer complaint often come from improper care of bottles and nipples. **A baby cannot get clean milk out of a dirty bottle or through a dirty nipple. Absolute cleanliness is the most important thing in infant feeding.**

THE "MATERNA MEASURE."—A simple method of milk mixing in the home is with the "Materna Measure" (Cut V.) This is a 16-ounce measure with six paneled sides. On each is marked the exact amounts of sugar, lime water, water, milk and cream to be used in feeding. The six panels are arranged to measure milk suitable to six ages of infancy. The measure may be had for a small sum from the druggist or instrument house. The method is simple and with it mistakes are seldom made.

FEEDING THE BABY.

Don't taste the baby's food by putting the nipple in your mouth.

Begin with a weak food. (See Mixture 1, first set of Milk Mixtures, page 13.) Too rich food at the beginning may make later feeding difficult. Too much food or too rich food will upset the baby's digestion and may lead to serious illness.

Increase the strength of the food gradually. Overfeeding causes more sickness than not enough food.

See that everything that comes in contact with the milk is absolutely clean.

Keep the food cold until ready to use it. Then warm it to about blood heat. Do not give the baby cold milk. Do not give the baby hot milk.

Give just enough food for a single feeding. If any is left in the bottle, throw it out. Do not offer the same milk to the baby a second time.

Feed the baby regularly. If you start right the baby will be ready for each feeding and will not cry for food between feedings. Regularly fed, the baby is healthier and happier.

TABLE OF TIMES AND AMOUNTS FOR INFANT FEEDING FOR THE FIRST YEAR.

AGE.	Hours between feeding.	Number of feedings between 10 p.m. and 7 a.m.	Number of feedings in 24 hours.	Ounces to each feeding.	Ounces in 24 hours.
3rd to 7th day	2	2	0	1–1½	10–15
2nd to 3rd week	2	2	10	1½–3	15–30
4th to 5th week	2	1	10	2½–3½	25–35
6th week to 3rd month	2½	1	8	3–5	25–40
3rd to 5th month	3	1	7	4–6	28–42
5th to 9th month	3	0	6	5–7½	30–45
9th to 12th month	4	0	5	7–9	35–45

In increasing the quantity of food never increase more than a half-ounce at a time.

Do not increase the quantity and richness of the food at the same time.

Don't feed more often than suggested above. The stomach needs some rest.

Large babies require more food than small babies.

The weight is the best indication of the success of feeding. After the second week the baby's weight should increase regularly. Loss of weight is a danger signal that must not be ignored.

The character of the stools is an important guide in infant feeding. Foul smelling, greenish or frothy stools indicate illness. Diarrhoea is often the forerunner of fatal sickness. When the stools are unnatural in character or when there are more than four movements a day, a physician should be called. **Neglect of the first symptoms of indigestion may lead to the serious illness or death of the child.**

Never give patent medicines, drugs or nostrums for indigestion. As a rule drugs are not needed; often they are dangerous. Proper feeding will usually overcome the trouble. In correcting errors in feeding, the physician is your best advisor.

OTHER FOODS FOR THE FIRST YEAR.

No other food except milk should be given until the end of the seventh month except by direction of the physician. After the seventh month gruel made of barley, arrow root or oatmeal may be given beginning with small quantities.

The quantity may be increased gradually as the child grows older.

Pure, whole milk may be allowed in some cases after the ninth month. At about the same time the child may have a crust of bread or a piece of zweibach.

Beef soup or mutton broth may be substituted for or added to the milk after the tenth month. Soups and broths for infants should be very carefully prepared, should be free from an excess of fats and should not be highly seasoned.

Many practitioners advocate the use of these preparations much earlier, especially if the milk disagrees or fails to nourish the infant. They are regarded as especially valuable when rickets is threatened or when the teeth are slow in coming.

Fresh beef juice may be given during the last of the first year and sometimes earlier in quantities of not over 2 teaspoons a day.

Beef juice is best prepared by broiling a piece of lean beef very lightly and expressing the juice with a lemon squeezeer. Two or three ounces can in this way be gotten from a pound of meat.

Orange juice may be given in small quantities after the tenth month.

Do not feed the baby anything except its regular food.

Do not feed the baby at the table. Potato, meat, fruit, pickles and all other table foods are absolutely poisonous to the infant. Hundreds of babies have been killed by mistaken parents giving them such foods.

THE CARE OF THE BABY.

Bathe the baby every day. A clean baby is happier and healthier than a dirty baby. Babies bathed regularly stand the hot weather better than those not bathed. During the hot weather it may be well to bathe the baby twice or three times daily. No baby was ever yet "washed out of the world." Never bathe within an hour after feeding. It is a good plan to give the baby its bath, then its bottle and then a nap.

Take good care of the baby's skin. If the skin is irritated the baby will be uncomfortable. An uncomfortable baby is rarely a healthy baby. Use soap sparingly in the bath. Never use it if the skin is irritated or raw. Use water in which a teacupful of bran tied in a cheese cloth has been agitated.

For nettle rash or prickly heat, add to the basin of water a teaspoonful of bicarbonate of soda (baking soda) or a tablespoonful of vinegar. After bathing baby in summer with this preparation leave a slight moisture on the skin. Talcum powder can be used between the folds of flesh.

During the summer dress the baby lightly. Strip the baby on hot days and let it lie around naked for a few hours indoors.

Keep the baby out of doors as much as possible, but avoid the hot sun. The baby must have fresh air. A few hours in the parks every day or two may save the life of the baby living in crowded city houses.

A soft flannel belly band is a great protection to the child. It will prevent the injurious effects of sudden changes in the temperature.

Neither nurse nor mother should ever put her fingers into baby's mouth without first washing them.

Don't have the baby sleep in the same bed with an adult. If there is no crib make a bed for the baby on a couch or chair.

Don't let the baby put dogs or cats close to its mouth.

Don't try to make your baby walk. It will walk when it gets ready. Few babies can walk at twelve months; none should.

Every baby requires water in addition to its food. In hot weather especially, give a drink of pure water several times a day.

A drink of pure water or of thin barley water, without milk, is excellent for a child of six months or more if it awakes in the night and cries for food. It really needs nothing more.

Published by Order of the State Board of Health.

James A. Egan, M. D.,
Secretary.

BARLEY AS A FOOD FOR INFANTS.

(See Pages 12 and 15.)

As stated in the foregoing circular, barley is recommended by many authorities as a proper substance for children's food.

One author of international reputation, Professor A. Jacobi, of New York, states that if he were restricted to the use of any one food in addition to cow's milk, it would be barley meal or oat meal.

A prominent physician of northern Illinois, who has been practicing in the State during the past thirty years, writes as follows in a recent communication to the Secretary of the State Board of Health:

"My food, for babies is **invariably** one heaping tablespoonful of pearl (store) barley, ground in a coffee-mill, and boiled in one quart of water, down to a pint. Strain, and add the same quantity of milk, and let the baby have it. Hundreds of mothers have used this preparation on my direction, and the result has been healthy, growing, fat babies. I think that Professor Jacobi recommended this thirty years ago, and I always use it, and with constant success."

In connection with the above it is deemed proper to state here that many physicians who have devoted much time to the study of the care of infants, hold that barley water or oat-meal water, should not be given to infants until after they are six months, and when given should be in the same quantity as the water recommended for dilution of the milk.

July 15, 1905.

SUGGESTIONS TO DAIRYMEN AND MILK DEALERS.

The production of a good, clean milk is not the complicated business it has often been regarded. It requires only reasonable knowledge, reasonable intelligence and reasonable care.

The following suggestions, if observed, will do much toward securing a good, clean milk. Whenever it is practicable to do so, milk buyers should see that their dairymen live up to the standards at least this high:

Don't buy Jerseys, Alderneys or other fine grade cows. If you have Jerseys and Alderneys, cross breed them with common hardy stock like Durhams and Holsteins. Common breeds do not give as rich milk, but it is more digestible. Common grade cattle are hardier and are not subject to disease as much as are the finer grades.

Have your cows tuberculin tested to show that they are not afflicted with tuberculosis. Consumption may be acquired from the milk of cows so diseased.

Feed your cows clean, dry food. Slops and brewers' grains are unfit food for milk cows. Cabbage and other strong tasting foods give a strong taste to the milk.

Do not turn your cows into fresh pastures too suddenly in the spring. Barn-fed cows, turned at once into unripe grass, give milk which often causes diarrhoea and serious illness.

Keep the weeds out of your pastures. Weeds eaten by cows often make the milk strong and unfit for use.

Fill up the mud holes and muddy ponds in your pastures. Wallowing in mud holes makes the cow filthy. Drinking water from muddy ponds is unwholesome for dairy cows.

No building should be used for dairy cows which is not well lighted, ventilated and drained.

Stable floors should be solid and easily cleaned. They should be so slanted as to give good drainage. Stable drains should be connected with public sewers, if possible.

Every stable should be provided with covered water-tight receptacles for dung and other refuse. Refuse should not be allowed to accumulate on the stable floor or in the barnyard.

No water closet, privy, urinal, cess pool, inhabitated room or work shop should be permitted to remain in a dairy stable. Chickens, hogs, horses, sheep and goats should be excluded from the cow barns.

Five hundred cubic feet of air space should be allowed for each cow in the barn. No stall should be less that four feet wide.

Cow stables should be kept clean and should be whitewashed frequently. Dung and refuse should be removed from cow barns every day. In the best dairies the stables are cleaned twice daily.

Barn yards should have solid ground in them. Cinders or gravel may be used to good advantage. There should be no mud holes. The barn yard should be graded for quick drainage.

Each barn yard should be provided with good drinking troughs which may be easily cleaned. It is better for the cows and better for their milk that the drinking water be warmed in very cold weather.

Keep your cows clean. The best dairymen have their cows curried once or twice daily. This prevents the falling of loose hair or dirt into the milk during milking. The currying should be finished at least twenty minutes before the milking begins.

The udders should be washed with pure water before each milking. The hands of the milker should be absolutely clean.

The first milk drawn from the udder contains the dirt and filth which have accumulated in the udder. The first few streams should be drawn into a waste bucket. This should not be mixed with the milk which is to be sold.

Milk is purer and better if drawn into pails covered with perfectly clean cheese-cloth. The milk filters through the cloth and many impurities are removed. Such cloths should not be used again until they have been boiled.

Do not keep the milk in the barn until several cows have been milked or until the cans or pails are filled. The milk of each cow should be hurried at once to the dairy house and cooled as quickly as possible. Milk standing in open vessels in the stables takes up foul odors and is contaminated with dust and dirt.

Rapid cooling is the greatest secret of pure milk production. Germs grow rapidly in warm milk. Germ growth is checked when the milk is cooled. The quicker the cooling the purer the milk will be. Cool the milk at once after milking and keep it cold.

Every can, dipper, pail, measure or other utensil used in handling milk should be boiled frequently and kept absolutely clean.

After cooling, the milk should be immediately bottled and packed in ice. All milk should be bottled in the dairy. The customer is justified in refusing to buy milk delivered in cans.

Use no adulterants of any kind in your milk.

If the milk is bloody or slimy, throw it away. Also throw away any milk in which dirt has fallen.

Never sell the milk of a sick cow. Every dairyman should have a small lot where sick cows may be separated from the herd. Isolation of sick cows will often save the entire herd from disease.

Milk from cows with cracked or sore udders should never be sold. It is often absolutely poisonous to delicate infants. Remember that your milk goes not only to strong men, but to delicate babies as well.

Do not use the milk from a cow twenty days before calving nor for three to five days after.

Dairymen having healthy herds should not permit their calves to drink skim milk from cows of which they know nothing. Skim milk from creameries, often used by dairymen for feeding, has caused widespread disease in healthy herds.

Aside from the obligations imposed upon the dairyman, in justice to his customers, to sell good clean milk, it must be remembered that the laws of the State of Illinois establish certain standards for milk and provide penalties for their violation.

Under the provisions of the law it is a misdemeanor to—

(1) Adulterate milk for the purpose of sale for human food, with water or any foreign substance.

(2) Knowingly sell for human food, milk from which the cream has been taken, without the purchaser being informed or knowing of the fact.

(3) Knowingly sell for human food, milk from which what is commonly called "strippings" has been taken, without the purchaser thereof being informed or knowing the fact.

(4) Knowingly sell for human food, milk drawn from a diseased cow, knowing her to be so diseased as to render her milk unwholesome.

(5) Knowingly sell for human food, milk so tainted and corrupted as to be unwholesome.

(6) Keep cows for the production of milk for sale or exchange in an unhealthy condition.

(7) Knowingly feed cows upon food that produces impure, diseased and unwholesome milk.

(8) Offer for sale in any city of the State any milk from which the cream or any part thereof shall have been taken, or sell the same except as "skimmed milk," and fail to have each can or vessel in which such milk is carried or exposed for sale, plainly and conspicuously marked with the words "Skimmed Milk."

Violations of any of these provisions of the law are punishable by fine or imprisonment or both.

The law specifically provides that the addition of water or any foreign substance to milk or cream intended for sale or exchange is an adulteration, and that any milk that is obtained from cows fed on distillery waste, usually called "swill," or upon any substance in a state of putrefaction, is impure and unwholesome.

In accordance with the law approved June 7, 1897, the standard of analysis for milk in this State as to ingredients and preparations shall be: Water, 88 per cent; milk solids, 12 per cent, and such milk solids shall contain not less than 3 per cent of butter fat.

IMPORTANT NOTICE.

The Illinois State Board of Health has published a circular on the **CAUSE AND PREVENTION OF CONSUMPTION,** a preventable and curable disease, but one which kills between 7,000 and 8,000 persons in Illinois every year; kills men and women in their prime.

This circular contains chapters on the following subjects: THE CAUSE OF CONSUMPTION, THE SYMPTOMS OF CONSUMPTION, HOW TO AVOID CONSUMPTION, HOW THE SPUTUM MAY BE DESTROYED, IF YOU HAVE CONSUMPTION, THE HYGIENE OF THE SICK-ROOM, CONSUMPTION IN SCHOOLS, AS TO CHANGE OF CLIMATE, AND AS TO THE TREATMENT OF CONSUMPTION IN ILLINOIS.

Copies of this circular will be sent free of charge to any person who applies to the Secretary at Springfield.

It is believed that if a copy of this circular could be placed in every home in the land and was read and its precepts heeded, the ravages of consumption would be greatly reduced in a few years.

In consumption, in the diseases of infancy and childhood, in fact in all diseases it is essential that the premises be kept in a sanitary condition. All decaying animal and vegetable matter and every kind and source of filth in and about the house should be removed and disinfectants freely used. Surface drains and gutters, out houses, privies, shelters for domestic animals, fowls, etc., and basements and cellars should receive close and constant attention and Standard Disinfectants No. 1 and 4, described on the following page, should be used freely and regularly in such places.

This list of Standard Disinfectants is taken from the **CIRCULAR ON CONSUMPTION,** above referred to.

Standard Disinfectants

The following are simple, cheap and most reliable disinfectants:

Standard Disinfectant No. 1.

Four per cent solution of Chloride of Lime.

Dissolve Chloride of Lime of the best quality, in water, in proportions of six ounces of lime, to one gallon of water.

This is one of the strongest disinfectants known. Discharges from the bowels of a patient suffering from a contagious or infectious disease, should be received in a vessel containing this solution, and allowed to stand for an hour or more before being thrown into the vault or water closet. Discharges from the throat or lungs should be received in a vessel containing this solution.

Chloride of Lime in powder may be used freely in privy vaults, cess pools, drains, sinks, etc.

Instead of the solution of chloride of lime, carbolic acid may be used for the same purpose, in a strength of 6½ ounces to the gallon of water. This makes a 5 per cent solution of carbolic acid.

Standard Disinfectant No. 2.

Bichloride of Mercury, 1-500.

Dissolve corrosive sublimate and muriate of ammonia in water, in the proportion of two drachms (120 grains,—¼ ounce) of each to the gallon of water. Dissolve in a wooden tub, barrel or pail or an earthen crock.

Use for the same purpose and in the same way as No. 1. Equally effective but slower in action, so that it is necessary to let the mixture (disinfectant and infected material) stand for about four hours before disposing of it. This solution is odorless, while chloride of lime solution is often objectionable in the sick room on account of its smell.

Standard Disinfectant No. 3.

Bichloride of Mercury, 1-1000.

Dissolve one drachm (60 grains—⅛ ounce) each of corrosive sublimate and muriate of ammonia in one gallon of water. Dissolve in a wooden tub, barrel or pail or earthen crock.

Use for the disinfection of soiled underclothing, bed linen, etc. Immerse the articles for four hours, then wring them out and boil them. This solution is excellent for wetting the floors of offices, stores, workshops, halls and school rooms before sweeping.

Mixed with an equal quantity of water this solution is useful for washing the hands and general surfaces of the bodies of attendants.

☞Chloride of lime, carbolic acid and corrosive sublimate are deadly poisons.

Standard Disinfectant No. 4.

Milk of Lime (Quick Lime.)

Slack a quart of freshly burnt lime (in small pieces) with three-fourths of a quart of water—or, to be exact, 60 parts of water by weight with 100 of lime. A dry powder of slack lime (hydrate of lime) results. Make milk of lime not long before it is to be used by mixing one part of this dry hydrate of lime with eight parts (by weight) of water.

Air-slacked lime is worthless. The dry hydrate may be preserved some time if it is enclosed in an air tight container. Milk of lime should be freshly prepared, but may be kept a few days if it is closely stoppered.

Quick lime is one of the cheapest of disinfectants. The solution can take the place of chloride of lime, if desired. It should be used freely, in quantity equal in amount to the material to be disinfected. It can be used to whitewash exposed surfaces, to disinfect excreta in the sick room or on the surface of the ground, in sinks, drains, stagnant pools, etc.

THE CARE OF BABIES.

(Editorial in St. Louis Republic.)

A very useful and interesting pamphlet has been issued by the Illinois State Board of Health on the care of babies in summer. While this pamphlet is sent to physicians it is prepared rather for home distribution, and will be mailed to anybody who will make a request upon Doctor J. A. Egan, the secretary, at Springfield. In addition to practical advice on the care of infants there is valuable information for mothers. The explanations and instructions are presented to the best effect by means of numerous illustrations.

It may seem preposterous that boards of health should discover a necessity for this kind of education. But the reason for adopting such a policy is one of most vital concern. Throughout the summer the mortality is not adult mortality, but infant mortality. Summer is, for infants, the period of suffering and death. The illnesses peculiar to babies in the hot weather are, when they do not result fatally, detrimental to future health.

"Statistics have demonstrated," says a circular bulletin issued by the Illinois State Board of Health, "that from one-fourth to one-third of all babies born fail to live to the beginning of the second year of life. It is not the heat alone which is responsible for this high mortality. By far the greatest number die from improper food, improper feeding or inability to digest and assimilate the food given."

The care of the infant decides more than the matter of survival and resistance; it bears upon the physical strength and the health of the person in later life. Many bodily ills could be traced to that neglect or indifference, in infancy, which was due to ignorance of the rules of health.

Frequently, during the last few years, The Republic has called attention to the infant mortality in summer. Mortuary office statistics indicate that the intense heat is not the chief cause nor always the secondary or contributing cause of death. This point has often been emphasized by the St. Louis Board of Health, and it is the basis of action on the part of the St. Louis Pure Milk Commission. Good food and good care for babies would obviate, as local organizations suggest, the harmful influences and effects of the temperature. It is obvious, therefore, that instruction must be a help in saving life and forming strong physical constitution.

The special virtue of the pamphlet issued by the Illinois Board of Health is its clearness. It is written, not for physicians, but for mothers. Technical terms are avoided. The directions are set forth with magnified distinctness by means of illustrations. The contents embrace instructions on pure milk, diet, artificial feeding and the general care of infants, as well as information to mothers regarding the preservation of their own health.

That the proper care of infants would reduce the mortality and tend to improve the adult health is a prospect which should increase interest in authoritative advice. What mothers do not know about the care and health of themselves and their children physicians do know; and what the physicians know is of particular usefulness because it is knowledge gathered from many sources in regular practice. The summer is the time for devoting extra care to infants. And that care should be regulated in the manner propounded in such pamphlets as those which the ever-alert and ever-busy Illinois State Board of Health is circulating in the homes.

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